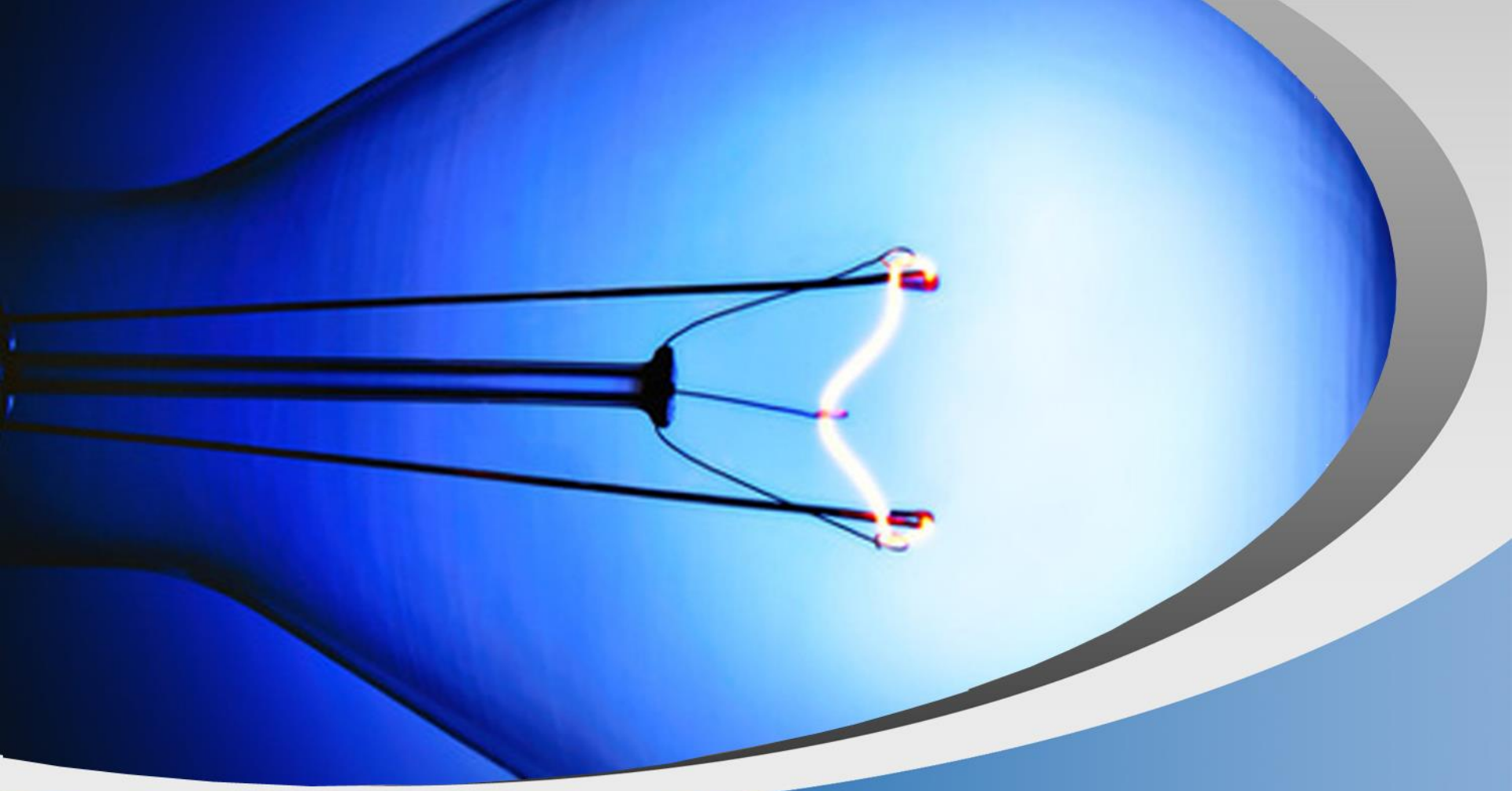

SystemC CCI WG
Hiding Parameters

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accellera
SYSTEMS INITIATIVE

Hiding Parameters

- **Objective of the present example is to demonstrate the following :**
  - Constructing and activating a private broker to restrict access to the parameters

This example also exhibits the ability to manage complex interdependencies as described in Parameter Hiding (UC13)

Example Explanation

- **A small subsystem (parent and child module) are wrapped within a module (ex14_private) to control visibility of the contained parameters**
- **The wrapper makes it easy to:**
  - Establish scope of the private broker as the entire subsystem
  - Identify exceptions (parameters to be exposed) prior to construction of any subsystem parameters
- **Note: the subsystem doesn't need to be modified itself to make this happen**

Example Illustration (1)

Top module

configurator

Initialize handle to ***parent_int_buffer*** parameter of the PARENT

wrapper

- Initialize and register a private broker of type cci_utils::broker (pbroker)
- Identify in advance the parameters to be exposed
  pbroker.expose.insert("Top.private.parent_inst.parent_int_buffer");
  pbroker.expose.insert("Top.private.parent_inst.child_inst.pub_int_param");
- Then instantiate the parent module
  m_parent_inst = new ex14_parent("parent_inst");

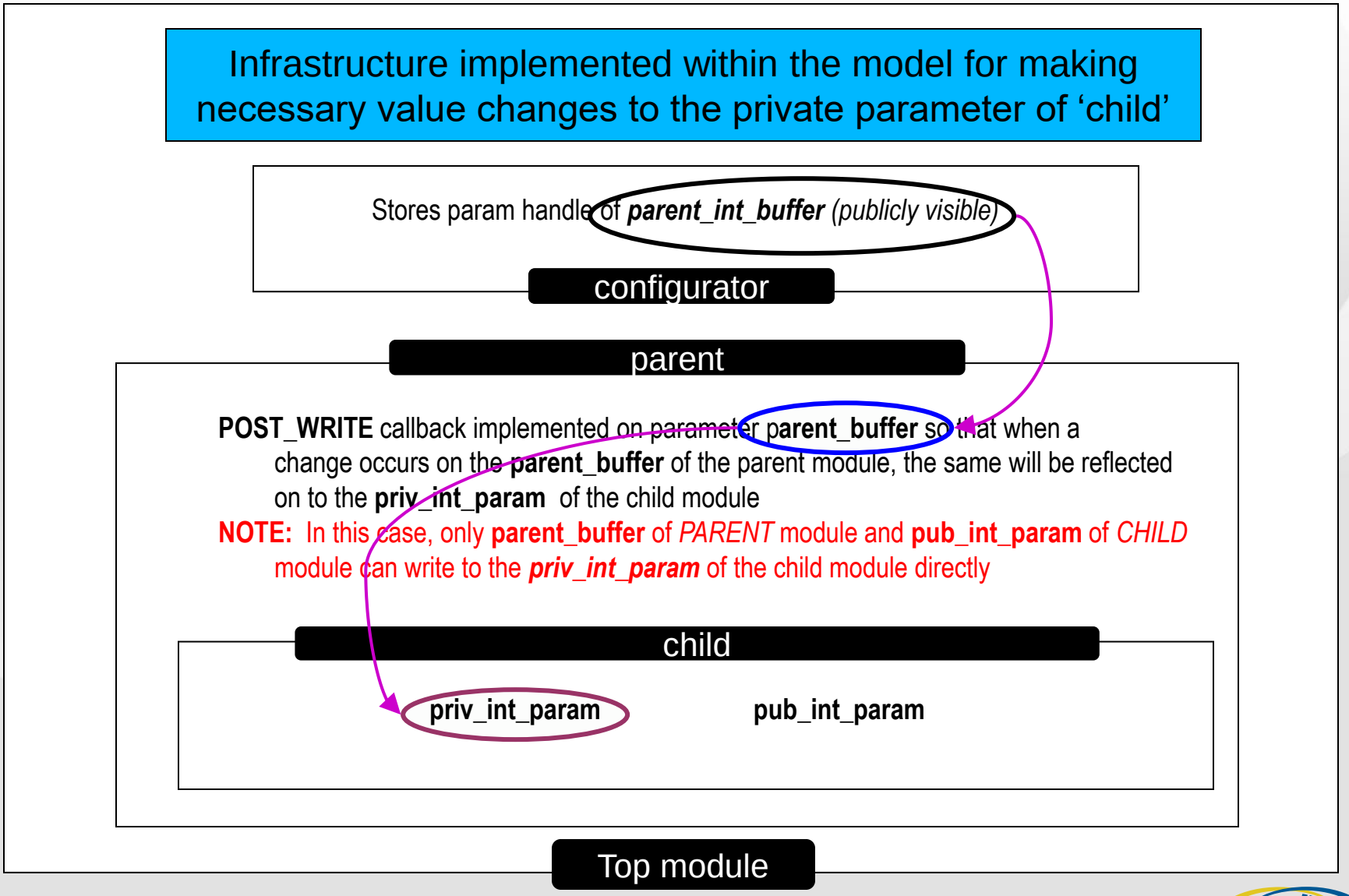
parent

- Instantiate the **child** module : ***child_inst("child_inst")***
- **Constructs** parameters as shown below:
  parent_int_param("parent_int_param", 300);
  parent_buffer("parent_int_buffer", 350);

child

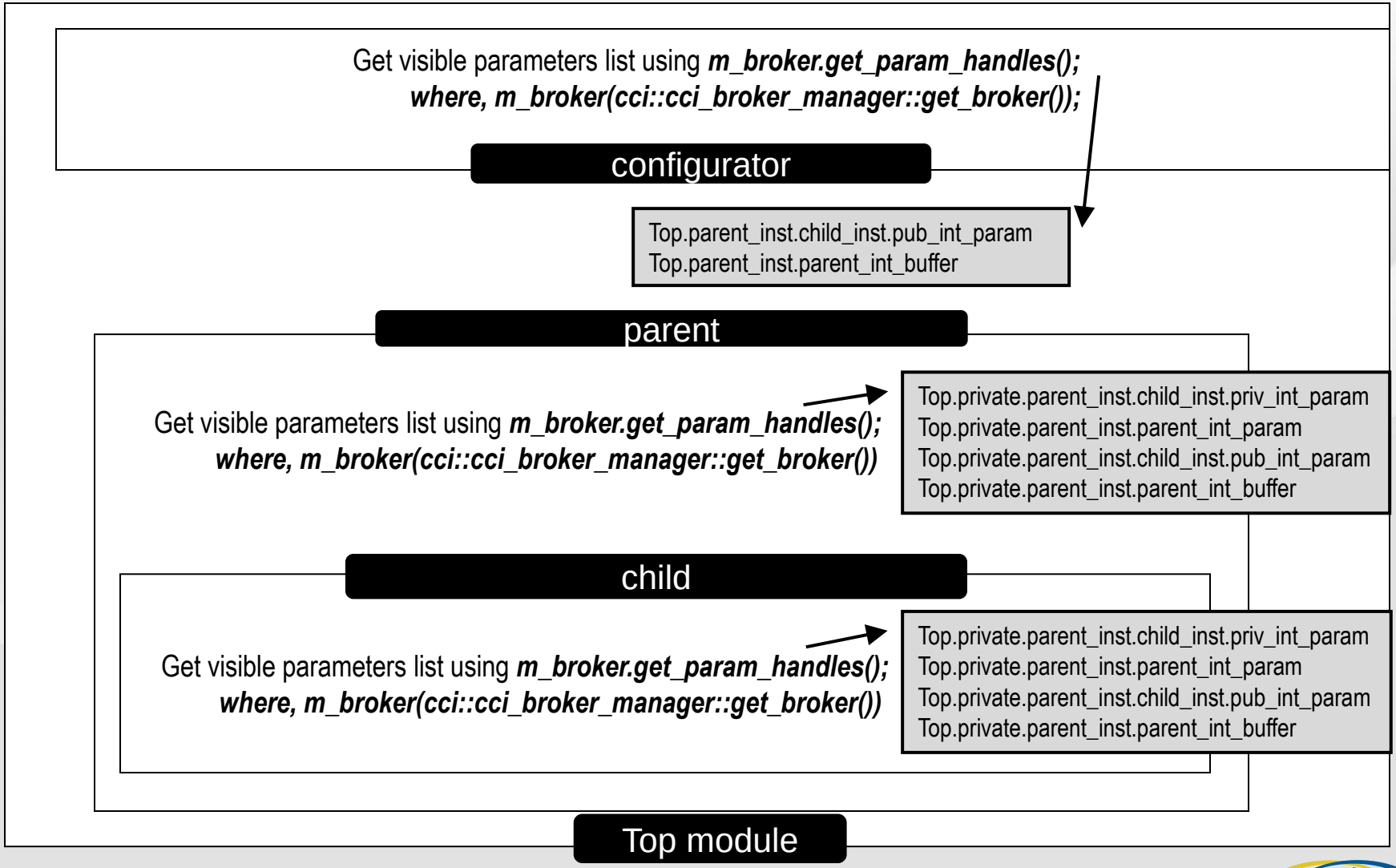
cci::cci_param<int> priv_int_param with a DEFAULT VALUE of ***100***
cci::cci_param<int> pub_int_param with a DEFAULT VALUE of ***150***

Example Illustration (2)

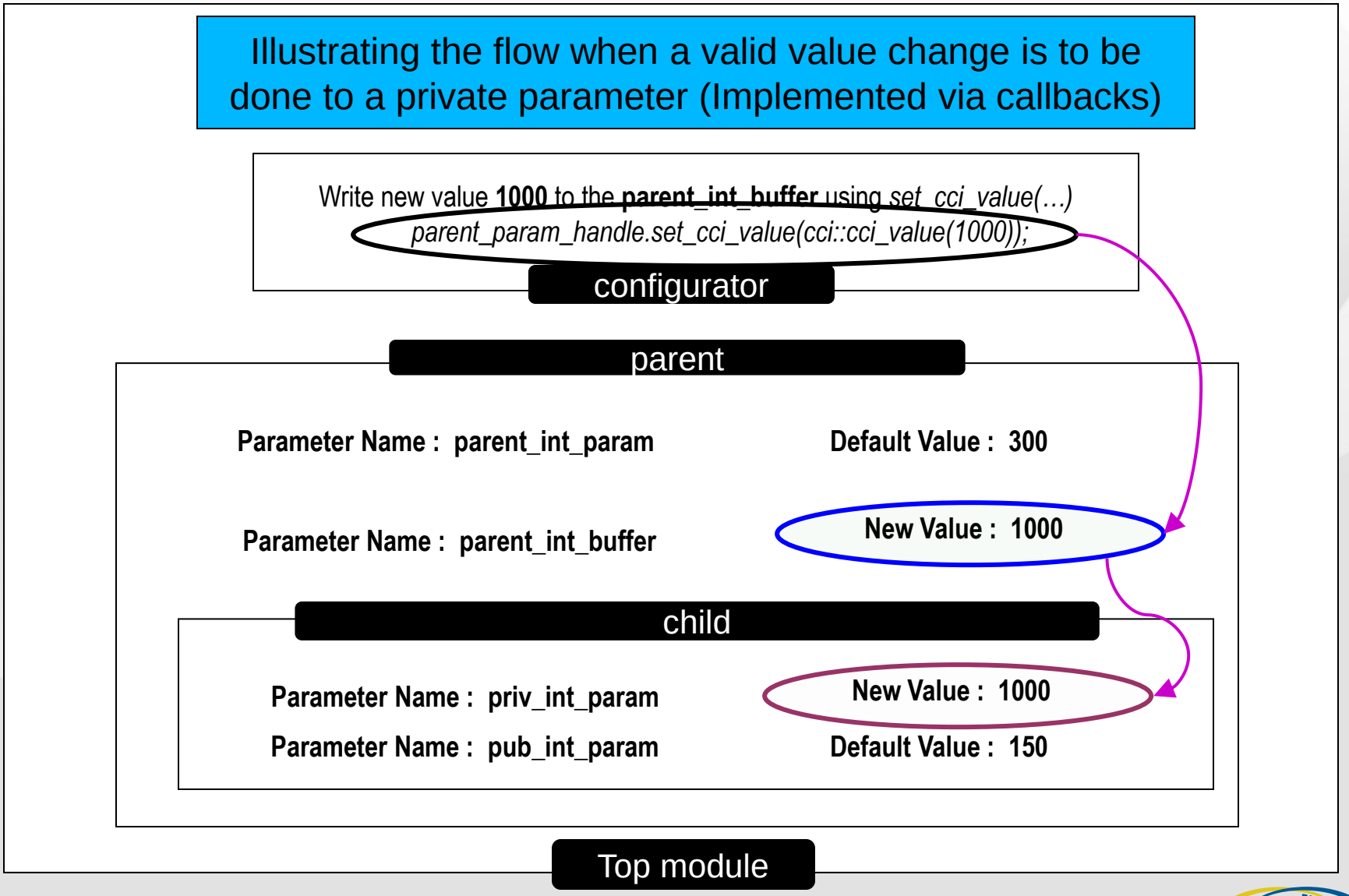


Example Illustration (3)

Demonstrating ***Parameter Hiding***



Example Illustration (4)



Expected Output (ex14_Hiding_Parameters.log)

```
SystemC Simulation

Info: Top.private.parent_inst.child_inst: @0 s, [CHILD C_TOR] : Is Private Broker? : true

Info: Top.private.parent_inst.child_inst: @0 s, [CHILD C_TOR] : Parameter Name   :
Top.private.parent_inst.child_inst.priv_int_param     Parameter Value : 100

Info: Top.private.parent_inst.child_inst: @0 s, [CHILD C_TOR] : Parameter Name   :
Top.private.parent_inst.child_inst.pub_int_param      Parameter Value : 150

Info: Top.private.parent_inst: @0 s, [PARENT C_TOR] : Parameter Name :
Top.private.parent_inst.parent_int_param    Parameter Value : 300

Info: Top.private.parent_inst: @0 s, [PARENT C_TOR] : Parameter Name :
Top.private.parent_inst.parent_int_buffer   Parameter Value : 350

Info: sc_main: Begin Simulation.

Info: Top.param_cfgr: @0 s, [CFGR] : Parameter Name : Top.private.parent_inst.parent_int_buffer
          Parameter Value : 350

Info: Top.private.parent_inst.child_inst: @0 s, @ 0 s  Visible parameters to 'child' module

Info: Top.private.parent_inst.child_inst: @0 s, [CHILD] : Parameter Name :
Top.private.parent_inst.child_inst.priv_int_param

Info: Top.private.parent_inst.child_inst: @0 s, [CHILD] : Parameter Name :
Top.private.parent_inst.parent_int_param
```

Cont'd

```
Info: Top.private.parent_inst.child_inst: @0 s, [CHILD] : Parameter Name :
Top.private.parent_inst.child_inst.pub_int_param

Info: Top.private.parent_inst.child_inst: @0 s, [CHILD] : Parameter Name :
Top.private.parent_inst.parent_int_buffer

Info: Top.private.parent_inst: @5 ns, @ 5 ns          Visible parameters to the 'parent' module

Info: Top.private.parent_inst: @5 ns, [PARENT] : Parameter Name :
Top.private.parent_inst.child_inst.priv_int_param

Info: Top.private.parent_inst: @5 ns, [PARENT] : Parameter Name :
Top.private.parent_inst.parent_int_param

Info: Top.private.parent_inst: @5 ns, [PARENT] : Parameter Name :
Top.private.parent_inst.child_inst.pub_int_param

Info: Top.private.parent_inst: @5 ns, [PARENT] : Parameter Name :
Top.private.parent_inst.parent_int_buffer

Info: Top.param_cfgr: @15 ns, @ 15 ns      Visible parameters to the 'configurator' module

Info: Top.param_cfgr: @15 ns, [CFGR] : Parameter Name :
Top.private.parent_inst.child_inst.pub_int_param

Info: Top.param_cfgr: @15 ns, [CFGR] : Parameter Name : Top.private.parent_inst.parent_int_buffer

Info: Top.param_cfgr: @20 ns, @ 20 ns
```

Cont’d

```
Info: Top.param_cfgr: @20 ns, [CFGR] : Change the value of the 'parent_int_buffer' to '1000'

Info: Top.private.parent_inst: @20 ns, [PARENT - post_write_cb] : Parameter Name :
Top.private.parent_inst.parent_int_buffer   Parameter Value : 1000

Info: Top.param_cfgr: @20 ns, [CFGR] : Parameter Name : Top.private.parent_inst.parent_int_buffer
          Parameter Value : 1000

Info: Top.private.parent_inst.child_inst: @25 ns, @ 25 ns

Info: Top.private.parent_inst.child_inst: @25 ns, [CHILD] : Parameter Name :
Top.private.parent_inst.child_inst.priv_int_param     Parameter Value : 1000

Info: sc_main: End Simulation.
```